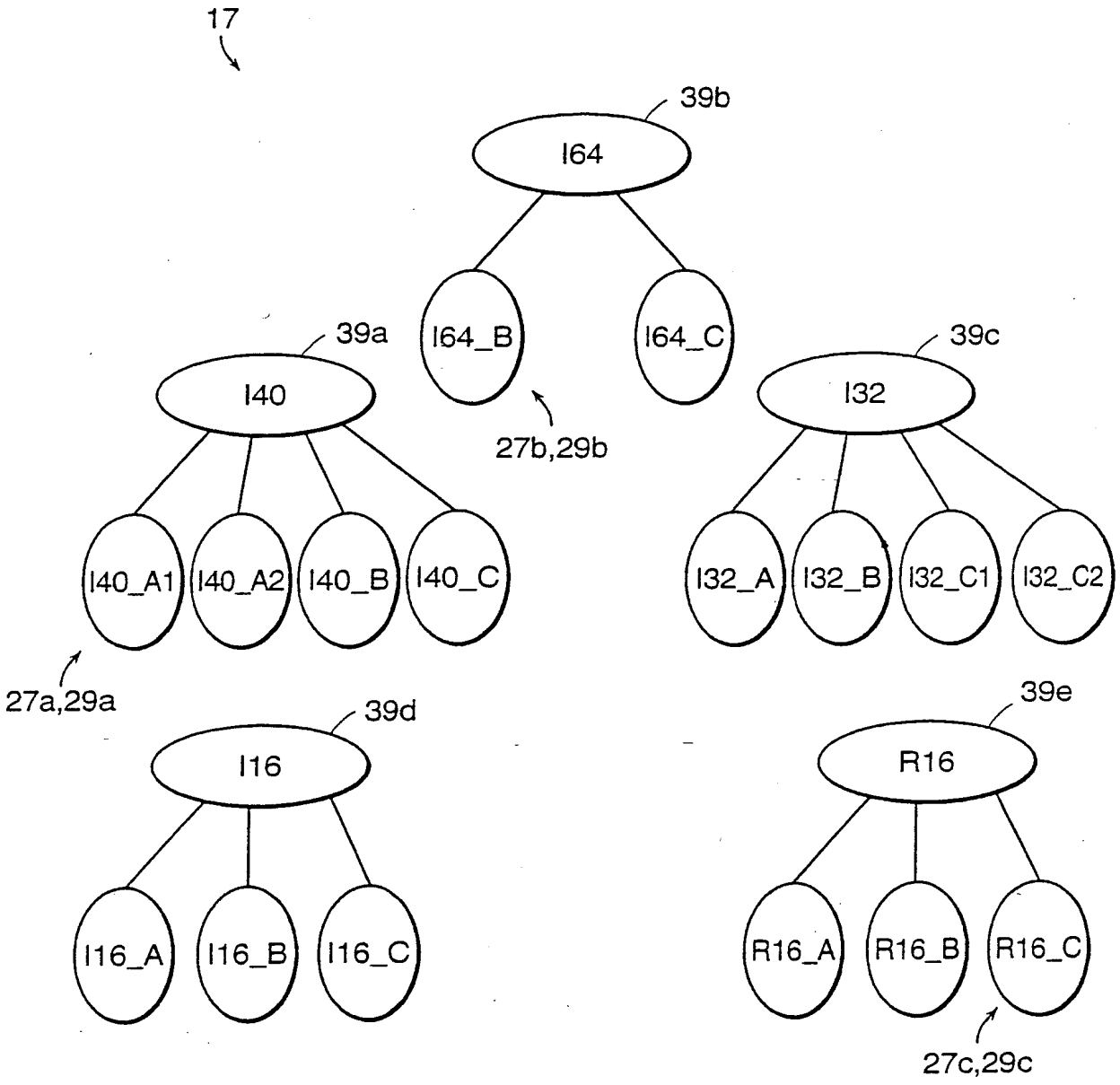


POWER STRUCTURE OF CLASS HIERARCHY
FOR EXAMPLE LIBRARY

FIG. 1

```
FLOAT func1(FLOAT);
FLOAT func2(FLOAT);
void main{
FLOAT a,b,c;
b=func1(a);
c=func2(b);
return 0;}
```

25

Pure FLOAT Model

FIG. 2

```
ToInt func1(ToInt);
I64_B func1(I64_B);
FLOAT func2(FLOAT);
void main{
ToInt a,b;
FLOAT c;
b=func1(a);
c=func2(b.data);

return 0;}
ToInt func1(ToInt d)
{I64_B e(d);
 I64_B f;
 f=func1(e);
 return (ToInt) f;}
```

33a

Mixed Model

FIG. 3

```
FLOAT func1(FLOAT);
ToInt func2(ToInt);
I64_B func2(I64_B);
void main{
FLOAT a;
ToInt b,c;
b.data=func1(a);          ←33b
c=func2(b);
return 0;}
ToInt func2(ToInt d)
{I64_B e(d);
 I64_B f;
 f=func2(e);
 return (ToInt)f;}
```

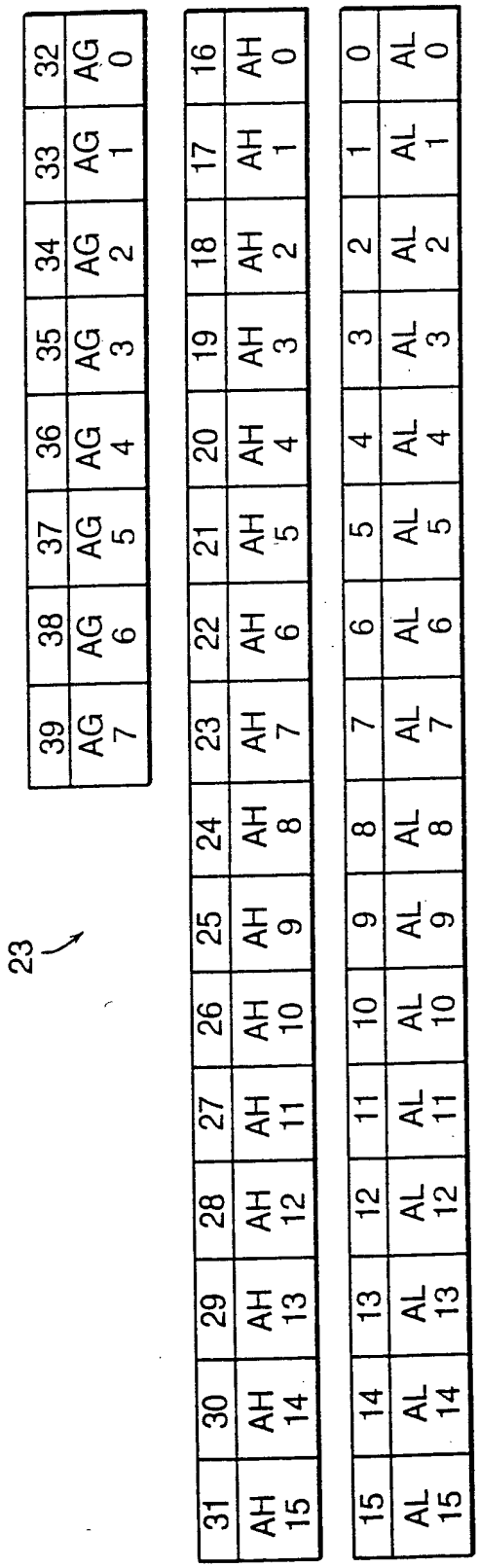
Mixed Model

FIG. 4

```
I64_B func1(I64_B);
I64_B func2(I64_B);   ←35
void main{
I64_B a,b,c;
b=func1(a);
c=func2(b);
return 0;
```

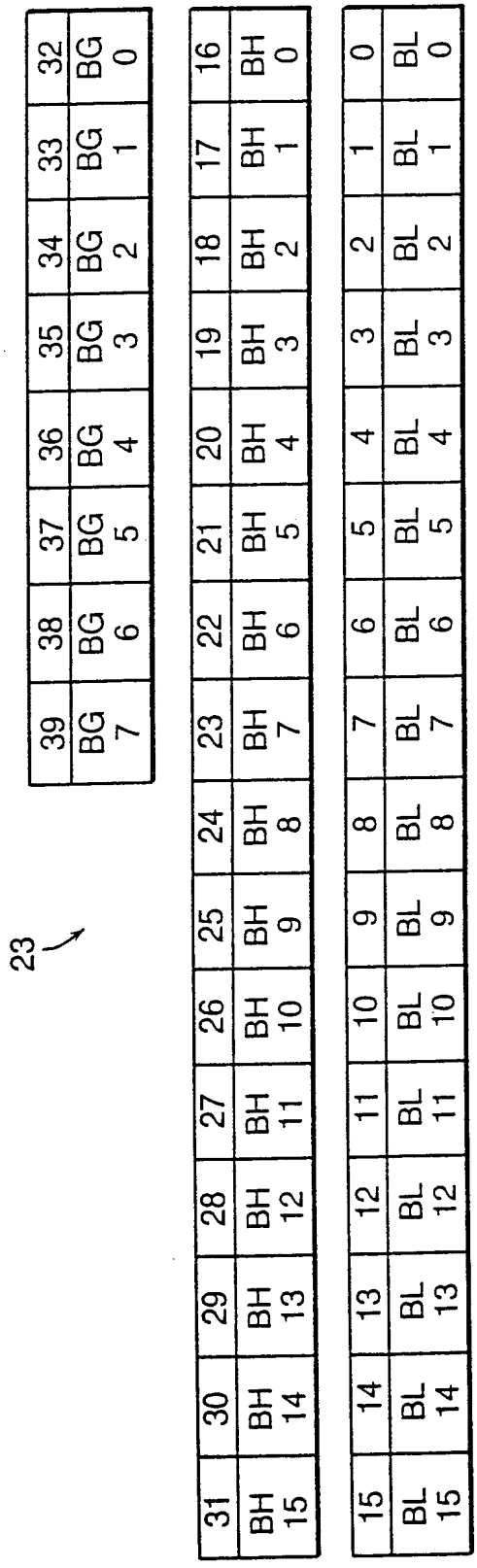
Pure Fixed Model

FIG. 5



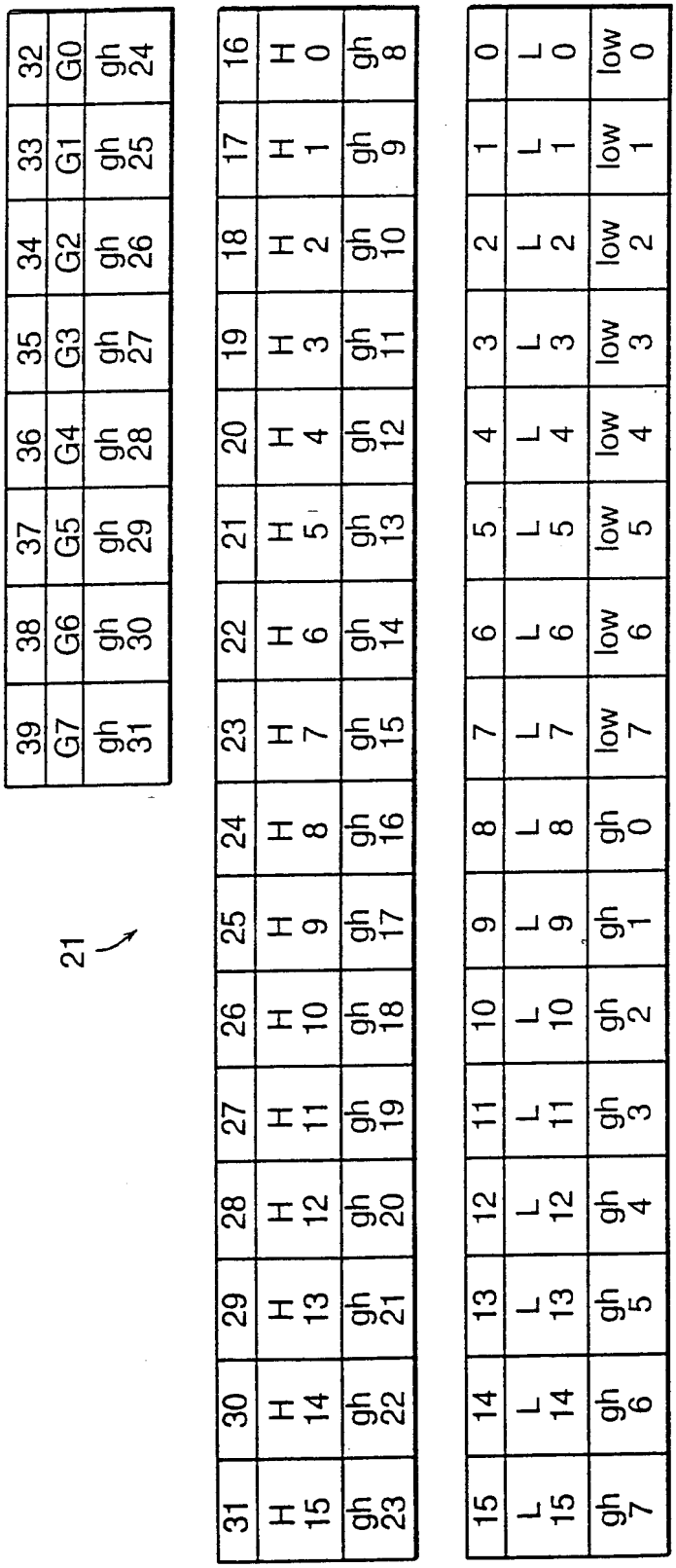
Layout of TMS320C54x Accumulator A

FIG. 6



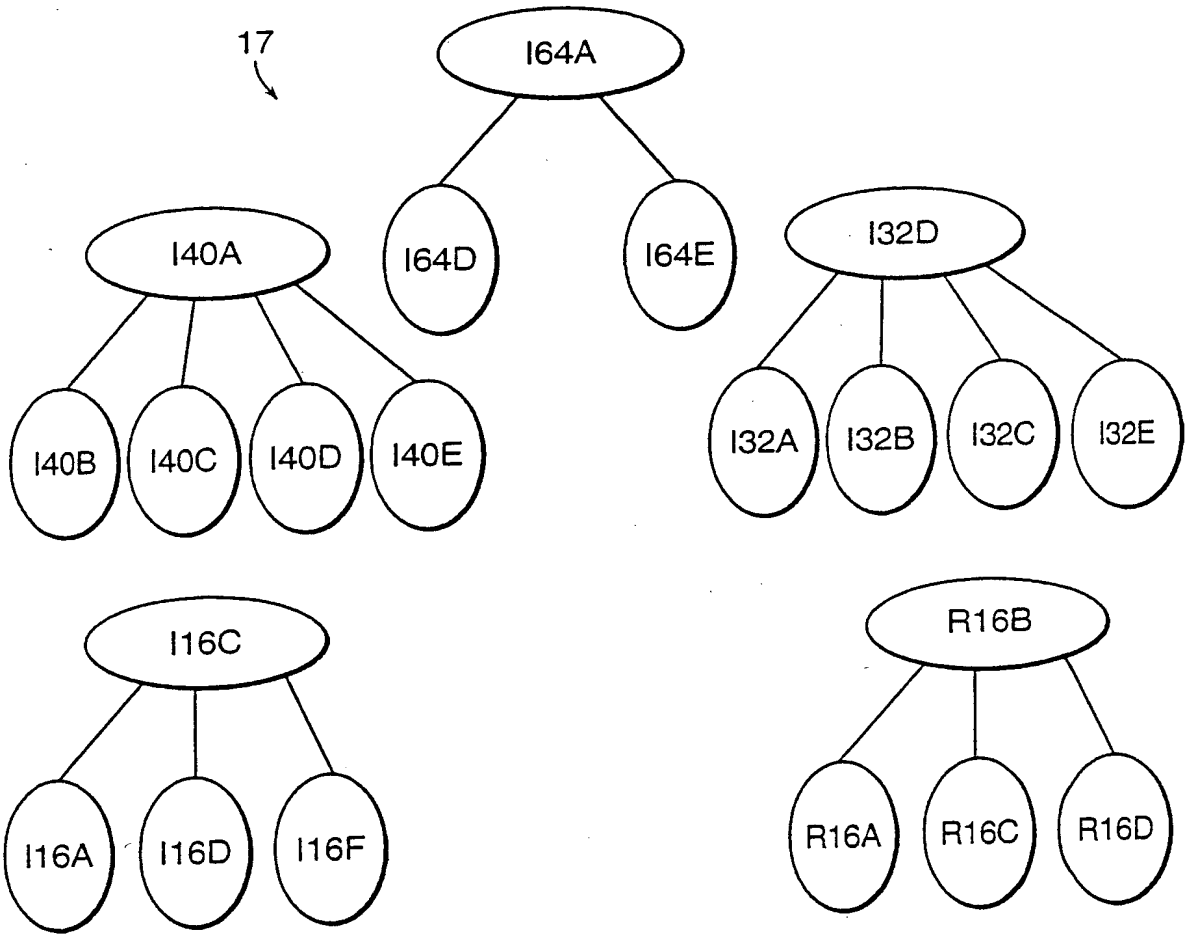
Layout of TMS320C54x Accumulator B

FIG. 7



Layout of I40 class data members

FIG. 8



POWER STRUCTURE OF A CLASS HIERARCHY

FIG. 9

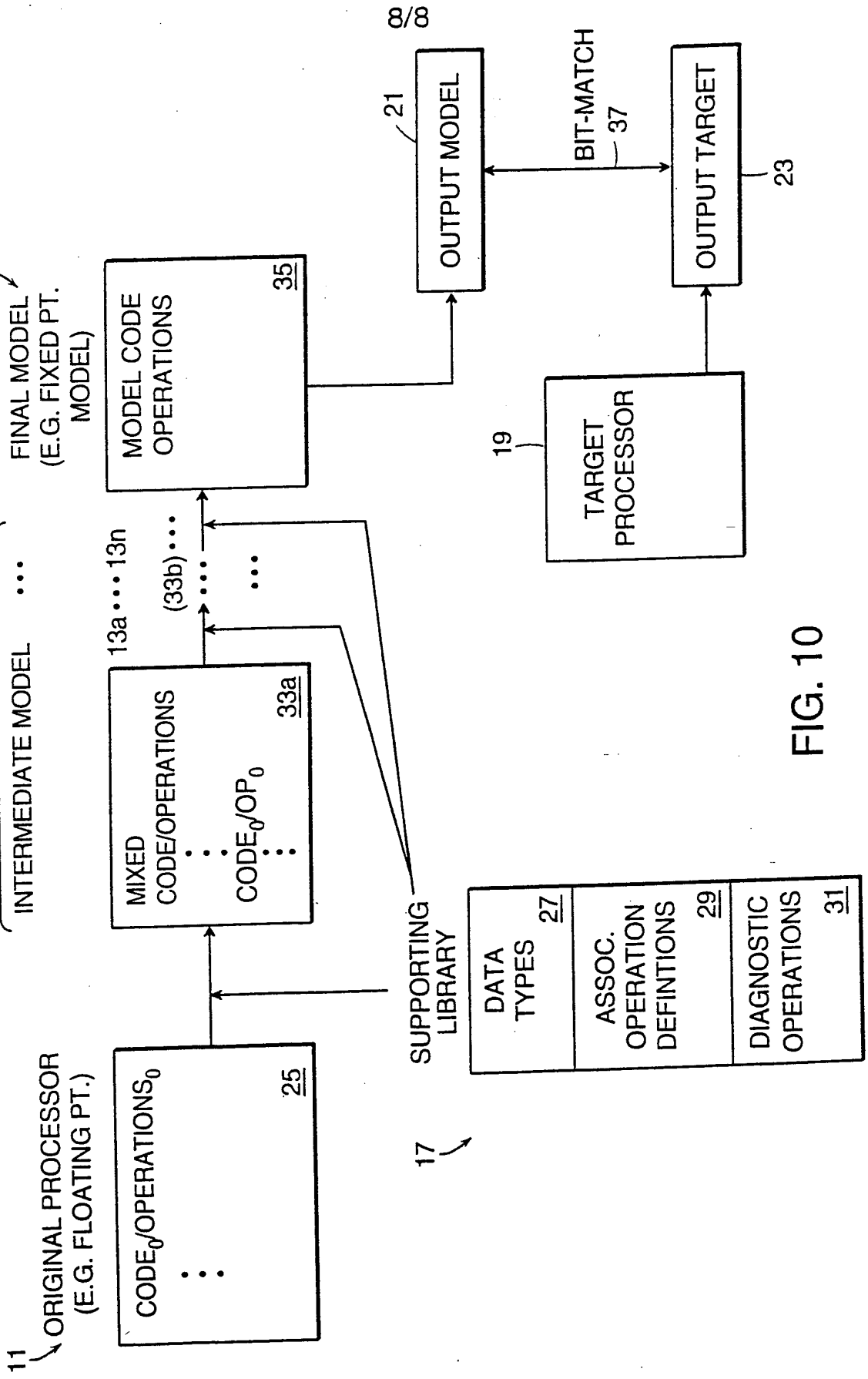

11
ORIGINAL PROCESSOR (E.G. FLOATING PT.)
CODE0/OPERATIONS0
25
13
INTERMEDIATE MODEL
MIXED CODE/OPERATIONS
CODE0/OP0
33a
13a • • • 13n
(33b) • • •
15
FINAL MODEL (E.G. FIXED PT. MODEL)
MODEL CODE OPERATIONS
35
17
SUPPORTING LIBRARY
DATA TYPES
27
ASSOC. OPERATION DEFINTIONS
29
DIAGNOSTIC OPERATIONS
31
19
TARGET PROCESSOR
21
OUTPUT MODEL
BIT-MATCH
37
OUTPUT TARGET
23

FIG. 10